# Driving forces and expectations for sustainability within the corporate sector

- how does carbon offset fit in?

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MVEK02 EXAMENSARBETE FÖR KANDIDATEXAMEN 15 HP
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Lund 2021

# Abstract

Climate change is a long-term challenge that requires urgent actions. An increased amount of greenhouse gases in the atmosphere, causing changes in the climate system such as melting glaciers and extreme weather conditions, are correlated to economic growth. To mitigate climate change, there is a need to evolve efficient strategies to reduce greenhouse gas emissions from companies within all branches. One such strategy is carbon offsetting within the voluntary market. This thesis aims to investigate companies sustainability strategies, with carbon offset as an integrated part of it, and the driving forces behind them. Moreover, companies' expectations for the future and the market's development will be taken into account. The study has been conducted by reviewing relevant literature along with a survey, which 14 companies answered. Interviews with three of the responding companies have been held to get a deeper understanding. 43 percent of the companies purchase carbon offsets due to their sustainability strategy. 50 percent of the companies answered that they observe obstacles to develop their sustainability further; however, different obstacles were stated. The companies experience high pressure from external stakeholders, but they predict internal demands will increase. Several companies do not view carbon offset as the central part of their future sustainability strategy. However, most of them recognize that emissions not impossible to reduce exist, and therefore carbon offsetting still fills a vital function. The thesis concludes that stakeholders and customers will continue to place high demands, but requirements from future employees can also be expected. Further, the majority of obstacles observed are considered being outside companies' influence. Due to the gap between high demands and lack of alternative opportunities to develop their sustainability work, carbon offset will continue to be a strategy within the next ten years.

Keywords: Carbon offset, business strategy, driving forces, developmental barriers, future analysis, sustainability strategy, voluntary carbon market.

# Populärvetenskaplig sammanfattning

Klimatkompensation förutspås fortsätta öka som hållbarhetsstrategi - till följd av myndigheters kontraproduktivitet!

Vi människor har nått en punkt i vår miljöpåverkan som får forskare att tro att vi måste förklara en ny geologisk epok - den antropocentriska epoken. Vårt levnadssätt orsakar stora förändringar i klimatet, vilket har lett till att vi har överskridit en eller flera planetära gränser. Samtidigt ökar företagens vinster år efter år och den globala ekonomin är i en konstant uppåtgående trend. Om trenden fortsätter likt den har gjort de senaste 70 åren kommer både planeten och vår existens utsättas för allvarliga miljörelaterade konsekvenser. Samtidigt kan näringslivet och dess framgång spela en central roll i utvecklingen av de nya tekniska lösningar som krävs för att hantera klimatförändringarna. Detta betyder att företagens framsteg i omställningen till en hållbar affärsverksamhet också är avgörande för våra liv på jorden och därmed ställs höga krav på industrins hållbarhetsstrategier. Anledningarna till att ett företag bör tänka mer hållbart är många, men det som de själva uppger motiverar mest är kraven från kunder och investerare. Det stämmer att engagemanget gällande klimatfrågan är stadigt ökande och, i samband med högre krav från intressenter, ser också allt fler företag att integrering av hållbarhet är en nödvändig del i företagsstrategin. Denna integrering kommer fortsatt vara nödvändig även i framtiden. Resultatet visar att ett företag som i framtiden påverkar miljön negativt helt enkelt inte kommer ha en plats på framtidens marknad, utan blir utkonkurrerade av de företag som tog ansvar för sin klimatpåverkan. Samtidigt antyder resultatet att höga krav på företags hållbarhet från anställda kommer öka i framtiden. Den yngre generationen antas dela Greta Thunbergs åsikter och kommer helt enkelt inte acceptera en arbetsplats som inte värnar om klimatet. En annan drivkraft som ännu mer tvingar företag att bli mer hållbara är lagkrav. Men tänk om dessa lagkrav stjälper mer än hjälper? Det är precis vad en del företag upplever!

En metod för företag att minska sin klimatpåverkan och kunna redovisa lägre utsläpp är att investera i klimatkompensation, en strategi som inte sällan associeras till något negativt. Trots det visar vårt resultat att majoriteten av företagen upplever positiv påverkan av klimatkompensation på både deras anställda, klimatet, samt företagets framtid och anseende. Hälften förutspår att deras klimatkompensation kommer öka inom de närmsta tio åren. Flera företag lyfter också problematiken kring bristen på bra metoder och en långsamtgående teknisk

utveckling. Därför är klimatkompensation en användbar strategi, eftersom det fyller luckan som bildas av en långsam teknisk utveckling och behovet av att minska sina utsläpp. Eller är det klimatkompensationen som stoppar upp utvecklingen? Kritiker menar dock att om företag, genom några enkla tryck på datorn, kan betala för sina utsläpp och sedan marknadsföra sig som klimatneutrala finns det ingen rimlig anledning att lägga resurser på att utveckla nya metoder för att minska sina utsläpp.

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# 1. Introduction

Public authorities, organisations and individuals have denoted the changing climate as one of the most important issues of our time. More importantly, these actors have also reached the realisation that not only *must* something be done, but something *can* also be done to mitigate climate change (Foley, 2011 p. 2). There are several different sustainable strategies companies can adopt, one of them being carbon offsetting (Foley, 2011 p. 9). Carbon offset can be described as financing an activity outside one's organisation that reduces the desired amount of emissions to be offset on another location. Different greenhouse gases have different potential for causing climate change and are therefore translated into carbon dioxide equivalent for comparison. A carbon credit represents the certified reduction or removal of one tonne of carbon dioxide equivalent from the atmosphere. Investment in carbon credits is called carbon offset, and the purchase of credits is a method to take climate action and "compensate" for a part of the emission created by lifestyle or business practices. The purchase of credits contributes by funding a project that generates emission reduction or removal; in other words, the investment in carbon credits helps drive the transition to a lowcarbon economy. The impact of greenhouse gas emissions do not depend on national borders, therefore the placement of the project one chooses to invest in is not of relevance. A carbon credit holds the same value independent of its global location. (Foley, 2011 p. 62; Gold Standard C, n.d.). There are several critiques against carbon credits and offset, including that it takes away the incentive to actually change the behaviour that generates emission. However, some of the emissions are unavoidable, and some products are bound to have an carbon footprint. While carbon offset alone might not be enough, it is a way to take accountability for the unavoidable emissions which one cannot reduce or remove (Gold Standard C, n.d.). Carbon offset constitutes a small, but necessary, part of the solution to climate change. Furthermore, Foley (2011 p. 2-4) describes carbon offsetting as an effective and efficient method to mitigate a company or organisation's climate impact.

*Climate* can plainly be defined as the average weather conditions; a more thorough description includes the mean and variability of relevant quantities for a certain period of time. The so-called relevant quantities are common, e.g. surface temperature, precipitation and wind. Hence, *climate change* may therefore be defined as changes in the state of the climate, which according to the Intergovernmental Panel on Climate Change (IPCC), can be identified by looking at the persistent change in

the mean or variation of its properties (IPCC, 2013 p. 122-126). It is observed that the concentration of greenhouse gases have heightened, and as follows, there has been warming of the atmosphere and oceans, which has led to a diminishing of ice and snow as well as a rising sea level. It is with certainty that the global mean surface temperature, since the late 19th century, has increased (IPCC, 2013 p. 4:37). To understand why and how climate change is occurring, one must first understand the climate system. Our planet is powered by the sun; part of the incoming shortwave radiation is reflected back into space by gases, clouds, aerosols, or surfaces like glaciers. This is called the albedo effect. The outgoing energy flux, emitted from the Earth's surface, consists mainly of longwave radiation (LWR) within the infrared spectrum. Atmospheric constituents, like greenhouse gases, water vapour and clouds, absorb a lot of the emitted LWR, which causes warming of the lower atmosphere and the Earth's surface. This is what is commonly known as *the greenhouse effect*. A higher temperature leads to diminishing glaciers, which in turn diminishes the albedo effect, causing the temperature to rise further. Changes in the emissivity, a measure of emission efficiency, or surface and atmospheric temperature can generate changes in the outgoing LWR. The changes in emissivity regarding the atmosphere are predominantly due to changes in concentration of greenhouse gases and aerosols, as well as changes in cloud cover and properties. Human activities that emit greenhouse gases, such as carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O), contribute to and increase the greenhouse effect (IPCC, 2013 p. 126-127).

According to Stead and Stead (2019), humankind has now reached a point in its environmental influence that is causing researchers to believe we must declare a new geological epoch called the Anthropocene, where human activity has caused an abrupt global environmental change, transgressing one or more planetary boundaries. Moreover, the authors state that nine planetary boundaries have been defined as irreversible triggers that, when passed, will threaten human existence on the planet, including; climate change, ocean acidification, stratospheric ozone, biogeochemical nitrogen and phosphorus cycles, freshwater use and change in biosphere integrity. The Earth and its organisms coevolve in a self-regulating, complex planetary system and even though humankind many times are seen as the dominant species on Earth, in the end, we are no more than organisms whose existence relies on the Earth providing vital systems (Stead and Stead, 2019). Due to the current growth path of the global population, the continued increasing demand for food, clothing, transportation and health care is a path towards disaster (Meyer zum Felde, 2019). There are natural limits on how businesses today can be conducted, how we grow our economies and how we rate our products. Businesses increase their profits year after year, and the stock exchanges are improving better than ever. Theoretically, there is more wealth for humankind than ever before. At the same time, resources are being depleted, water is increasingly becoming a scarce commodity, natural disasters occur more frequently, and related costs are rising (Meyer zum Felde, 2019).

Nonetheless, without any form of economic growth, the majority of all humans living in poverty will be sentenced to live under persistent scarce conditions. Economies of many developed countries will continue to crackle, and countless citizens will suffer from long periods of unemployment without economic growth. Even so, Borland et al, (2019 p. 19-30) states that if the global economy continues to grow as it has done the past 70 years, the Earth and its inhabitants will be put at great risk threatening Earth's forests, water supply and arable land. Economic growth has also led to an increasing amount of greenhouse gases in the atmosphere, resulting in harmful and permanent effects on climate change. Therefore, efficient strategies to drastically reduce carbon emissions within the next generation are necessary to halt the melting of glaciers, rising sea levels and extreme weather conditions everywhere (Borland et al., 2019 p. 19-30). It is safe to say not only society is stressed but also businesses, translating higher costs due to destroyed buildings, lost stocks, insurance fees and lost productions. Companies are well aware of the challenges associated with climate change, and most companies have been engaging in sustainability for some time, but in different ways. Until now, companies' main focus has been improving their profits, but the winds seem to be changing (Meyer zum Felde, 2019).

## 1.1 Purpose

This study aims to investigate the reasons and driving forces for companies within the corporate sector to purchase carbon offset and work with sustainability. We wish to examine how companies view the future for their sustainability work, including carbon offset as a strategy, regarding expectations of the market's development. By examining possible obstacles the companies observe to further develop their sustainability, we hope to provide an understanding of how and why the organisation chooses their different strategies, and to shed light on what is required for the corporate sector to evolve and become sustainable. Carbon offsetting is a disputed strategy, where some contend that it is only a method to buy yourself free. We have therefore decided to also look at the sustainability work, outside carbon offsetting, that the companies perform, with the purpose to find out if they settle for carbon offsetting as a strategy or strive to dive deeper.

The study will treat a smaller group of companies and the results derived from this study will be narrow. In order to establish where more extensive research is needed, smaller researches are required. With this study, we hope to provide a benchmark for where that is.

The scope of the study is limited to companies within the corporate sector, based in Sweden, and that are currently purchasing carbon offset. Based on the answers from participating companies in the survey, this study strives to provide an

overview of Swedish companies' experiences within the following research questions:

- **Which are the main driving forces, for the companies participating in the survey, to obtain sustainable business strategies?** What obstacles do they observe in regard to further develop their sustainable strategies?

- **Why have the specific companies chosen to purchase carbon offset as a sustainable strategy?**

- **How do these companies anticipate that future developments regarding sustainability will affect their business strategies?** How do they view carbon offsetting in relation to their sustainability strategies in the long term?

# 2. Method

An exporative study of relevant literature and research has been conducted in order to shape a survey, and to build a foundation from which the collected data from our survey can be analysed, with the aim to provide answers to the research questions. The procedure from the literature research can be found under Datasearch and is more thoroughly described in Appendix 3. From the knowledge gained from the literature, we shaped a survey. The survey was sent out to 34 companies that purchase carbon offset, 13 of the companies were provided by Southpole and the remaining 21 were found by another company's website that, just like Southpole, sells carbon credits. Of the companies that received the survey, 14 chose to reply. Due to the anonymity in the survey, we cannot know how many participants came from Southpole respectively for those we found ourself. The survey contained 26 questions, both multiple choice questions and open-ended questions. To get a deeper understanding of the subject, we conducted interviews with three of the companies that responded to the survey. With the aim of gaining more knowledge about insurance companies and investment companies' reasoning about firms' sustainability work, we finally conducted two interviews with two different employees at an Scandinaivan insurance company.

In the survey, we choose to have open-ended questions to receive as transparent answers as possible and minimise the risk that the design of the question affects the answer. There are two primary purposes of using open-ended questions: first of all, it ensures that all possible response options are incorporated. Second of all, it eludes bias (Schuman and Presser, 1979). By asking open-ended questions in the survey and during the interviews, the companies gain an opportunity to tell us what is on their mind, with respect to the topic, instead of driving the respondents to a specific answer. However, using open-ended questions also places a responsibility on us researchers, to listen to what the companies say and read what they write (Singer and Couper, 2017). To ensure the answers are correctly rendered, every interview has been recorded and the survey answers have been saved. As for this research, it is not relevant to analyse *how* companies express themselves, but *what* they state. Further, the answers have been summarised in such a way that both common and unusual answers are included.

The survey was sent out to the companies April 8th, 2021 and the last day to respond to the survey was April 18th, 2021. The deadline was set to ensure there was enough time to compile all the results and conduct the interviews. Between April

14th, 2021 and May 7th, 2021 five interviews were conducted. The interviews were conducted over Zoom, both due to the pandemic but also because the distances did not allow physical interviews. Before each interview a good internet connection was ensured, to exclude technical hassle. The survey was designed in Swedish and the interviews were held in Swedish and Norwegian, except for one interview which was held in English due to the participant's own desire.

The data collected through the survey and information from the interviews were analysed in relation to the literature on the subject. The result is presented in the shape of graphs, diagrams and free text. The interviews are summarised in text with the person's anonymity in mind. All questions from the survey are attached in Appendix 1, and Appendix 2 show answers to selected questions that are not presented in detail in the results.

## 2.1 Methodological reflection

The result in this thesis is built upon information provided by the companies themself. There is therefore a necessity to, in part, be critical. It is our hope that the anonymity of the survey has encouraged truthful information, however, we cannot dismiss the selectiveness of what has been shared with us. Due to lacking time and resources, we have not had the opportunity to control the information provided. We have taken into consideration that there is a risk that the participating companies wish to appear proactive within the subject of sustainability, and thereby alter their replies, both in surveys and interviews. However, given that there are no resources to control, we have chosen to work from the circumstance and trust the collected data.

If given the opportunity to remake the study, there are questions in the survey we would have changed. Some of the questions turned out to not be relevant for the study, either due to a lacking possibility to determine any useful information or because the course of the study had changed. Moreover, if a remake were done, we would also have had preferred to limit the scope of thesis, for example to a specific branch organization or a specific standard of carbon credits, in order to gain a more specific result. We had very little knowledge of the subject in the beginning of the project, and even after all the research, it is still limited. The depth of the thesis is therefore restrained by our competence, but it’s with great interest we hope to further develop our knowledge of carbon offset and the future sustainability strategies within the corporate section.

## 2.2 Datasearch

To find relevant literature, searches have been made primarily through the scientific database Web of Science and LUBsearch. The first step in finding relevant research was to establish which keywords to use. The keywords were defined on the basis of the issues and were later combined with AND, OR, NOT and truncation marks (*), with the aim of narrowing down the searches. Material has also been searched via the search engine Google, then with the aim of finding relevant information from, for example, newspaper articles or to access reports from other sources, such as the United Nations Framework Convention on Climate Change (UNFCCC). The same accuracy has been maintained in the selection of these sources. Moreover, only sources that can be considered credible have been chosen; however, there is an awareness that these sources may be deceiving. The collection of relevant literature occurred between March 25th, 2021 and May 26th, 2021. The complete literature search can be found at Appendix 3.

## 2.3 Ethical reflection

Since the study is partly accomplished in cooperation with Southpole and much information is collected from surveys and interviews with organisations, the most important ethical questions are secrecy and anonymity. The information shared by the companies has the potential to be "sensitive" and result in negative consequences if it could be connected to the specific organisation providing it. We have therefore chosen to provide pseudonyms for all participants in this study. The companies that participate in the survey are completely anonymous, even for us, unless they chose to follow up with an interview. For the people that participate in the interview, no information regarding the person's attribute will be disclosed. We will, in a safe way, save the information for ourselves, in the case of a required verification of the information, for one year. After that, it will be erased for good.

Despite the ethical risks, the study has been conducted because we believe that it can, in some way, contribute to a green transition within the corporate sector. Actors can find different use of the study, either by comparing themselves or simply to learn more about the subject. Furthermore, it can provide an indication for decision-makers on what is required in order to facilitate the green transition.

# 3. Background

The purpose of this section is to give the reader an overview of the relationship between the corporate industry and the climate, both from a business and an environmental point of view. This section will also provide an understanding of carbon offset and different opinions about it in relation to sustainability. The content of this section is used to substantiate the analysis and discussion of the results.

## 3.1 The business community and sustainable development are coupled

When the United Nations World Commission on Environment and Development (WCED) in 1987, released its report "Our Common Future", the business community was considered a primary change manager for sustainable development. Since then, the relationship between strategy and sustainability has made significant progress in business practice and academia. Today we know that companies' social and environmental engagements are not only relevant to sustainable development but also can improve companies' competitiveness (WCED, 1987; Wunder, 2019 p. 13). Thus, the corporate industry also has a central role in implementing common global objectives such as Agenda 2030, and notably the United Nations (UN) Sustainable Development Goal (SDG) 13 regarding Climate Action (UN, 2015; Svenskt Näringsliv, 2017). Partly because corporations are an essential prerequisite for countries' economic development in that they create job opportunities and thereby increase economic autonomy for the individual and the welfare. In addition, the business community acts as a supplier of technical solutions and services that deal with, for example, climate, water and resource consumption (Svenskt Näringsliv, 2017). According to Svenskt Näringsliv CEO Carola Lemne (2017), there cannot be sustainable development without a competitive business community.

20 years ago, sustainable development was meant to accomplish eco- and socioefficiency. Today it is inferring dealing with a major market transformation, systems disruption and "great challenges". The challenge of designing effective strategies and business models, and determining what and how to produce and distribute them, places high demands on technological and socio-ecological

developments. By neglecting one of them, a company's future competence can be put at great risk.

Further, the business community has evolved to be more transparent to a broad line of stakeholders worldwide, such as investors, customers and other parties pressuring companies to manage their impacts and conduct active sustainability work. Due to these factors, sustainability becomes highly important for strategic decisionmakers (Wunder, 2019 p. 1-3).

Nonetheless, despite the environmentally serious situation, the academic interest and the many institutional commitments to policy goals around the globe, companies' sustainability work does not adequately address the challenges humankind faces today. Scientists argue that if the corporate industry does not rethink strategic management and change how it views and performs things, the socio-ecological system supporting human life will deteriorate further (Wunder, 2019 p. 1-3). It is safe to say the issue of sustainable development is not just a social concern but also a paramount business concern, both in terms of opportunities and risks. Since the corporate industry is encapsulated in both ecological and social circles, the economy, as well as, organizations and individuals cannot avoid a deteriorating environmental situation. As a result, they are forced to rethink their way of responding to sustainability work by either effectively dealing with this new disruptive market situation or actively work to shift the market towards a sustainable future, both for their own gain and for the earth's population (Wunder, 2019 p. 1-3).

## 3.2 Carbon offsetting

One pathway for decarbonisation is through carbon offset, also known as climate compensation. The purchase of carbon credits enables companies and individuals to compensate for their emissions by reducing or removing emissions from the atmosphere (Southpole C, n.d.).

### 3.2.1 Voluntary carbon market compared to regulatory compliance market: Kyoto Protocol and Clean Development Mechanism

Eliasson (2021) states that the carbon offset market was born out of the UN and the Clean Development Mechanism (CDM). It was not considered reasonable that individual countries produced only policies and investments for themselves, but it was also necessary to channel capital from developed countries to developing countries (Eliasson, 2021). The carbon market can be divided into the *regulatory compliance market* and the *voluntary carbon market*. The first one regulates the GHG emission bound by law and mandatory carbon reduction. The regulatory market has

help from the three market-based mechanisms within the Kyoto Protocol: Clean Development Mechanism (CDM. Article 12), Joint implementation (JI. Article 6) and Emission trading (Article 17). With help from CDM projects, actors on the compliance market can meet their target by financing *carbon offset projects in developing countries* (UNFCCC, n.d.; Kyoto Protocol, 1997).

However, the three mechanisms of the Kyoto Protocol also encourage the private sector to make emission reduction efforts by creating an economic value for emission reduction (UNFCCC, n.d.). In comparison to the compliance market, the trade with carbon credits on the voluntary market is on a voluntary basis. Carbon credits on the voluntary market are called Verified Emission Reduction, abbreviated VER. However, the Voluntary market may purchase credits sourced either from CDM projects or from the voluntary market. In other words, actors on the voluntary market may decide for themselves if they wish to buy offset created through CMD or voluntary market offset. In contrast, actors on the regulatory compliance market are only allowed to buy certified emission reductions (CER). (Kollmuss, Zink and Polycarp, 2008 p. 5-6:12; Seeberg-Elverfeldt, 2010).

The UN has put up the criterion of additionality, defined in Article 12(5c) of the Kyoto Protocol, for all CDM projects. The requirement of additionality means that the achieved emission reduction from the projects must be outside the usual business. Thus, it must be a reduction that has happened due to the implementation of the climate action project, meaning that the projects in question depend on the revenue from carbon credit. Thus, the sale of carbon credits provides vital revenue needed for climate action (Kyoto Protocol, 1998:Southpole C, n.d.).

All the CDM projects are supposedly reviewed by the UN under Kyoto Protocol and withhold reliable monitoring to ensure the buyer that the investment de facto results in the advertised emission reduction. One credit is equivalent to one tonne of CO2, and the credits may be traded or sold. CDM projects often take place in developing countries since the objective is to have as efficient carbon reduction as possible, and the energy system of developing countries tends to be more carbon intensive than in developed countries (UNFCCC, n.d.; Foley, 2011 p. 18).

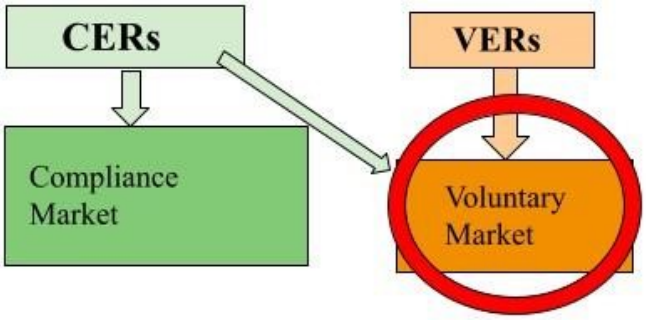


**Figure 1**
Illustration of how Certified Emission Reduction credits (CER) and Verified Emission Reductions (VER) are distributed within the Compliance, verse,Voluntary carbon offset market. The Voluntary market is circled because it is the part included in the scope of the thesis

### 3.2.2 Actors on the voluntary carbon market

The methodology of carbon offsetting is that a party who wishes to compensate for their carbon emissions, can purchase carbon credits from an offset provider. Carbon credits are created through projects which reduce, remove or avoid emissions in the atmosphere. The owner of the project is the party which supplies carbon credits to the market. The credits may then be sold or transferred to another party, in exchange for the benefits of the credits, being less emissions (Passero, 2009 p. 518).

There are several different actors involved on the voluntary carbon market, among others;

1. Project owners - operate the physical project.

2. Project developers - develop the project that creates credits (can be the same organisation as the owners of the project).

3. Third party Auditors, Validators and Verifiers - verify the projects actual emission reduction.

4. Standard Organisations - ensure fulfillment of criterias and rules in the absence of international legislation, compared to the regulatory compliance market.

Brokers and exchanges - facilitate the transaction of credits between seller and buyer.

5. Buyers - the final customers that purchase and retire the credits. (Kollmuss, Zink and Polycarp, 2008 p. 11-12).

According to Hamilton et al (2009 p. 24), the suppliers of credits on the market can either be project developers, which sell the credits to retailers or the final customers, retailers who own a portfolio of credits which they sell to individuals or organisations, or brokers. The brokers, in accordance with Kollmuss, Zink and Polycarp (2008), facilitate the transaction of credits but do not own any credits. It is

common that an organisation is operating in more than one of the mentioned categories (Hamilton et al., 2008 p. 24).
On the voluntary carbon market, an important part of the infrastructure to facilitate the transfer of carbon credits are intermediary organisations. The broad variation on the carbon credit marketplace, with different programs offering various standards and methodologies, can make it hard for the buyer to know which standard is appropriate to purchase credits from (Passero, 2009 p. 518). Projectdeveloper companies, like Southpole, provide the service of guiding companies that wish to offset their emissions, as well as guarantee that the projects adhere to international standards.

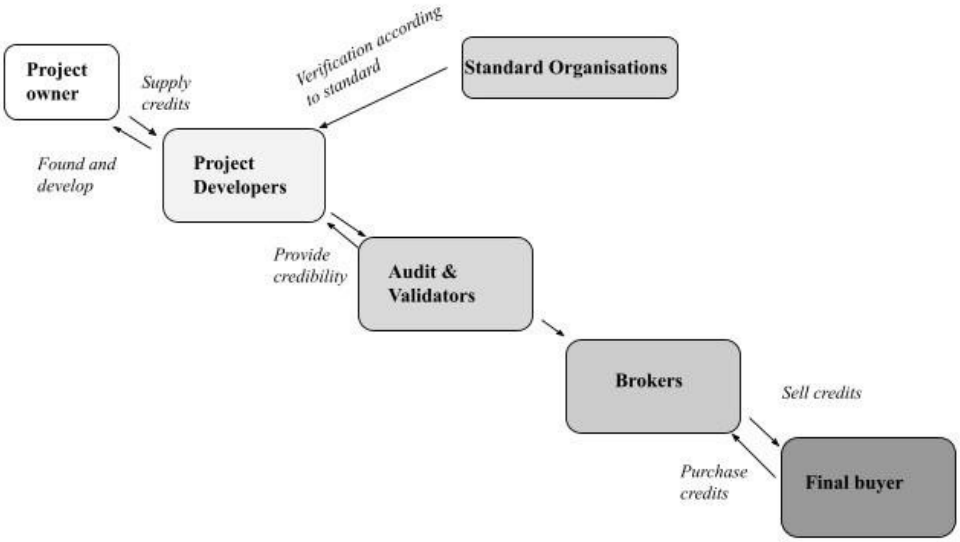


**Figure 2.**
Illustration of the interaction between actors on the voluntary carbon market.

### 3.2.3 Southpole: From project idea to carbon offset – the process

Southpole, a company founded in 2006 with the mission to help businesses and governments realise decarbonisation pathways, assess climate risks for specific sectors and develop solutions tailored to the customers' needs. Southpole sees climate and human development as two sides of the same coin, and they predict that the social and economic consequences of failing to face up to the climate and sustainability development problems will be devastating, pushing millions of people

into poverty. The aim is therefore to create a world where climate actions are integrated on all levels of society (Southpole A, n.d.).

During the interview with Southpole, they declared that they are carbon offset project developers and have developed around 700 projects. Even though the majority of the projects has been profitable, there is always a risk as a project developer that the project will not be approved and registered, which in turn leads to it not being possible to sell the emission reductions, and the project becomes unprofitable. Further, there is a project owner who owns the hardware, e.g. the hydropower plant or the forest (Eliasson, 2021). Hence, the owner of the hardware is not Southpole but a partner to them. As a project developer, the primary purpose is to develop the "green value" in a project. Simplified, this is done through analyses along with a pre-thesis sustainability study, which means Southpole investigates if the project is feasible. Further, Southpole is responsible for documents and partners relevant to the project. In the end, the project reaches the review body, an external party that aims to examine whether the project meets UN criteria. Afterwards, it is up to the UN to approve the project, a process that takes at least one year. When a project is completed and approved by the UN, it takes another one year until the project generates units, and the carbon reduction can be calculated. The calculation is made through a "business as usual" scenario where you originate from what it would have looked like if the project had not taken place. The calculation is also examined by a review body to ensure truthfulness. The units calculated is the compensation itself and which can be traded as carbon offset (Eliasson, 2021). For Southpole, the process of approving a climate action project includes verification from a third party agency and a review from a panel of experts from carbon offset standards like Verra's Verified Carbon Standard (VCS) or Gold Standard. To ensure transparency and ensure that the emission reductions are real, Southpole has chosen to assign every carbon credit with a serial number. Important to point out is also that after being bought, the carbon credits are permanently retired. In other words, they can not be used again. The retired carbon credits are published in publicly accessible emission registries (Southpole C, n.d.).

### 3.2.4 Carbon offset and its different points of views

According to Wilson (2011), sustainable development is often defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". To fulfill this, justice between generations is a must. Sustainable development also requires adjustment in the economic development between the developed and the developing world by meeting the needs of the poor. By increasing the supply of energy in developing countries and providing clean energy rather than carbon-intensive energy, the CDM could

provide an upsurge in the standard of living, while simultaneously affecting economic development and contributing to environmental protection for future generations. Meanwhile, developing countries expect to benefit from projects through employment opportunities, direct payments, access to energy and savings from more efficient energy (Wilson, 2011). Climate change is one of the consequences of the global capitalist economy. Due to that, the need to decrease human dependence on fossil fuels is significant. However, a reduction of fossil fuels represents a substantial threat against continued economic growth. Instead of directly regulating fossil fuel consumption, carbon markets have been established to reduce GHG emissions while still maintaining economic growth. In order to save the climate, carbon offsets have been seen as an attractive response to climate change since it is considered a "win-win" solution (Wilson, 2011).

Industrialized countries and private entities use international carbon offset schemes to offset domestic greenhouse gas emissions by financing climate change mitigation projects in the developing world. Besides contributing to sustainable development projects, carbon offset allows corporate investors to pursue low-cost emission reductions while imposing a range of environmental and socioeconomic costs on developing countries (Wilson, 2011).

### 3.2.5 Criticism against carbon offsetting from an environmental perspective

Since GHG are cross-border, emission reductions can be generated anywhere on the planet and generate environmental benefits by reducing the global concentration of GHG. Thus it also allows emission reduction to be executed wherever the cheapest reduction can be made (Wilson, 2011). From an environmental and socioeconomic point of view, the CDM has been criticized by the environmental and economic performance, meaning it is ineffective and unjust. Scientists have, among others, argued that the calculation methods of GHG emissions are in themselves deficient and easy to manipulate, leading to CER not reflecting the actual reduction emissions. Further, the CDM has been criticized for enabling companies to prolong their use of fossil fuels instead of alternate and investing in renewable energy technologies. The idea of offsetting does not originate from environmentalists or climate scientists but from politicians and business executives trying to meet the demand of action while maintaining the business itself. Additionally, "critical scholars" claim that CDM results from the far-reaching inequality that exists in the global society and that CDM only addresses the interests of international capital. According to them, CDM transfers power from the government to corporations and thereby opens up to a new form of "carbon colonialism" that will aggravate current environmental and social injustice (Wilson, 2011).

### 3.2.6 Criticism against carbon offsetting as a sustainability strategy

Another criticism stated by Wilson (2011) is that the economic theory that underlies emissions trading originates that the traded product is homogeneous, while it, in reality, is a heterogeneous product. Solar-heat cookers in Africa, hydroelectric dams in India and forestry projects in Brazil are considered equal as long as they reduce GHG emissions during the project crediting period. By allowing investment to flow its highest valued use, transfers in carbon credits can increase net benefits, but only when homogeneity occurs. Without homogeneity, external costs and benefits can be awarded to third parties. Furthermore, studies made in India have shown that CDM projects do not contribute to rural poverty alleviation, even though sustainable development was prioritised within the project and the project included rural poverty reduction targets. This assumes to be a consequence of the fact that social development is not the core of the formulation of these projects, along with not carrying out all the actions defined in the project design documents. In order to meet this deficiency, a group of non-government organizations established the Gold Standard Foundation (Wilson, 2011).

Johnny Kellner, a former energy and climate strategist at Veidekke Sweden, stated that carbon offsetting as a strategy for companies to become climate neutral is impossible. In his opinion, climate-neutral indicates zero emissions, and all companies cause emissions. He further explains that a company's impact on the climate can be compensated to a certain amount but never neutral. The carbon credits market converted from climate profits generated by various projects does not reduce a business' total emission, which is necessary for preventing climate changes. In best scenarios, carbon offset can prevent an increase in already existing point source pollution. Carbon offsets mean that a company pays someone else to do the job, and an environmental attribute is allocated to a business that "buys himself free". According to the financial statements, the company is environmentally friendly without, in fact, having to change anything within the business (Kellner, 2020). One of the most common is the comparison of carbon offset and papal indulgence; one buys offsets out of guilt and thereby pays for a clear conscience without actually changing the behaviour that generates emission (Foley, 2011 p. 9). Kellner (2020) agrees with this criticism, stating that companies offsetting carbon emissions are only "paying for absolution" and let someone else take care of the problem while they continue "business as usual".

Companies "paying for absolution" occur, and the critics may be right in those cases where the company's whole climate strategy is solely based on carbon offset. However, carbon offsetting and reduction of GHG emissions usually occur in tandem. Having carbon offset as an integrated part of a bigger and more comprehensive strategy that works towards reducing the carbon footprint, is according to Foley (2011), on the contrary, a way of taking extended responsibility for the caused emissions. Studies of the correlation between companies' climate

strategies and carbon offset have shown that companies that purchase carbon offsets also do more to reduce their emissions and have a more ambitious overall climate strategy compared to companies that do not purchase carbon credits. Moreover, businesses that invest in carbon offsetting generally invest more resources in climate activities and have better knowledge of their emissions (Foley, 2011. P.9; Wigg, 2020). According to ZeroMissions CEO Claire Wigg (2020), carbon offsets contribute to binding carbon from the atmosphere, which is a very important aspect of achieving the climate goal of 1,5-degree warming together with also reducing GHG emissions. Companies must use every tool available to reach the goals regarding climate change and reduce their GHG emissions as much as possible and compensate for residual emissions.

### 3.2.7 Different types of carbon offset projects

When speaking about carbon offset, many people directly think about planting trees. While this for certain is one type of project, there are several other types of projects possible to invest in. Different types of emission reduction projects will provide different benefits. There are also decisions on what type of emission reduction project to invest in. Different projects will provide different benefits (Gold Standard B, n.d.). Common to all reduction projects is that they either avoid emission, remove GHG from the atmosphere or capture and destroy emission. Below is an example of how Southpole, respectively Hamrick and Gallant (2017), have chosen to divide and categorise different projects. Hammrick & Gallant have made the categorisation based classification schemes set by different standards.

**Chart 1**
Description of different types carbon offsetting projects.

| Southpole | Examples | Hammrick & Gallant | Examples |
|---|---|---|---|
| Nature-based-solutions | Afforestation and urban tree planting | Renewables | Biogas, solar, hydro |
| Nature-based-solutions | Regenerative agriculture | Forestry and Land Use | Afforestation/reforestation |
| Renewable energy | Hydropower and wind power | Methane | Livestock/landfill/waste water methane |
| Community | Increasing access to clean water and clean cooking solutions | Efficiency and Fuel Switching, | Housing/industrial process |
| Waste - to - energy | Implementing climate-smart waste management | Household Device | Clean cookstove distribution |
| | | Transportations | Cars/bikes/public transit |
| | | Gases | N2O/ozone-depleting substances |

### 3.2.8 International standards for emission reduction on the voluntary market

In addition to different types of projects, there are also several different standards for offsetting emissions. Many organisations on the voluntary market work with Voluntary Emission Reductions (VER) projects. Since these projects are not subjected to the requirements set out for a CDM project, a wide span regarding quality and integrity can be found among VER projects (Foley, 2011 p. 22-23). The standards differ in how their projects are designed and how the verification of the project's emission reduction is measured. The baseline for choosing what carbon credits to invest in on the voluntary market is that the credit is certified against an internationally recognised standard. The credits should be unique, traceable and independently verified (Gold Standard B, n.d.). Except for CDM, some of the most well-known Standards for the voluntary market are;

**Gold Standard**, which was established in 2003 and ensures projects that reduce carbon emission under the CDM. The Gold Standard provides both Verified Emission reductions (VER) for voluntary climate action and Certified Emission reductions (CER) for meeting compliance targets (Gold Standard A, n.d.). To be certified, a Golden Standard project must fulfil environmental and safeguarding

principles, have a gender-sensitive design and contribute with a positive impact towards at least three of the SDG's (Gold Standard B, n.d.).

**Verified Carbon Standard (VCS)** - a voluntary GHG program that provides the service of verifying the actual emission reduction of projects. The VCS Standard provides credibility and control of emission reduction projects that have been certified against the standard. Verra, a not-for-profit organisation, handles the administrative part of the VCS program (Verra A, n.d.).

**The Climate, Community and Biodiversity Standard (CCB) -** works with identifying projects that all in one can address climate change, biodiversity and support local communities through land management projects (Verra B, n.d.).

Moreover, there is also the Plan Vivo System, VER+, The Sustainable Development Verified Impact Standard (SD VISta) and The Voluntary Offset Standard (VOS).

## 3.3 Driving forces for sustainability

Motivation for sustainable business can be separated into two groups, external driving forces and internal capabilities. Depending on how a company allocates its resources in order to deal with the effects of climate change, its internal capability varies. One of the current greatest external driving forces for reducing GHG emissions is legal requirements. However, the current lack of strict formal and informal requirements also makes it possible for companies to refrain from climate actions completely. Pressure from external stakeholders is listed as another huge external force, pushing companies against a low-carbon economy. Through pressures from robust stakeholders' company managers run a greater chance of considering the strategy of adopting carbon management practices in response to their firm's ecological uncertainty (Borland et al., 2019 p. 220).

Further, a company generally needs to focus on three aspects; 1) process efficiency, 2) technological development and 3) organizational changes. Overall cost savings, management commitment, GHG targets, and compliance with regulations are known to be the currently most important driving forces on companies' actions related to climate change strategy (Borland et al., 2019 p. 220). The New Divisions report *Hållbarhetsfokus 2020* illustrates that Swedish companies experience increasing pressure on sustainability work from investors. The study conducted by the New Division, indicates that the influence of society is the biggest driving force in sustainability work. Around 95 percent of the participants in the study stated customers' wishes and the social trend towards sustainable development as the main reason. However, unlike earlier studies by the same organisation, this time 90 percent stated that demands from owners and investors impact their sustainability work. Nonetheless, many answered that the capital market is not primarily at the forefront

- instead, political decisions and public opinions drive the transformation towards a more sustainable society. Trade and industry come in third place and kids are more important than the capital market, perhaps due to Greta Thunberg and the movement "Fridays for Future" (Lindblad, 2020).

### 3.3.1 Marketing

Green marketing activities include product modification, changes in the production process, packaging changes, remodelling, restyling and modifying advertising. It also includes industrial ecology and environmental sustainability, life-cycle analysis, material use and resource flows and eco-efficiency. If a business wants to gain a sustainable competitive advantage, it must integrate the environmental aspect in all parts of marketing. According to Moravcikova et al. (2017), this can only be achieved by implementing a green marketing strategy which is also necessary for future competitive advantage, higher profitability and better environmental performance. Gaining a maxim advantage in business competitiveness depends on the requirements and demands of customers, regulations and opportunities. These requirements positively affect businesses' environmental efficiency, which in turn contributes to higher profits and economic stability. Therefore, an important driving force for a company to implement a more sustainable business is the pressure from educated and empowered consumers. Studies have shown that people are troubled by the environment and are actively trying to change their behavioural pattern. Environmental factors are a growing aspect in the choice of purchases. Studies have also illustrated that a company's green marketing strategy supplies their profitability and competitive advantage and encourages a greener pattern of consumption among consumers. A study conducted by Moravcikova et al. (2017), illustrates a correlation between a company's green marketing implementation and their competitiveness. They further conclude that if a business is not trying to be sustainable, it is very likely they will be overtaken by competitors. It is also essential for a company's competitiveness to be transparent regarding their information for customers and prove their environmental performance (Moravcikova et al., 2017).

A crucial factor for purchase decisions, no matter if the product is environmentally friendly or not, is the price. Normally, the price for a greener product is higher. Nonetheless, the consumer willing to pay a higher price for a greener product exists but requires marketers who are able to identify those consumers (Mukonza and Swarts, 2019). Mukonza and Swarts (2019) conducted a study to establish the influence of green marketing strategies on business performance and corporate image. They argue that the relationship was positive and green marketing contributes to increasing sales. They believe the main reason for this positive effect is increased consumer interest in products and companies that do not want to harm the environment (Mukonza and Swarts, 2019).

Further, scientists argue that companies who develop green innovations are closer to a win-win solution and well on the path of resolving the conflict between economic development and environmental protection. By enhancing the green marketing strategy new business opportunities, new markets and new sectors of consumers will occur. Additionally, green marketing improves a firm's reputation, which in turn leads to increased profits (Mukonza and Swarts, 2019).

### 3.3.2 External stakeholders

Studies have acknowledged concerns expressed by regulators and investors regarding carbon emissions creating climate risks. A prime response by companies has been both mandatory and voluntary carbon disclosures which have occurred to be a focus of interest to investors, mainly due to climate change having implications on both risk profiles and expected future cash flow. The capital market values the choice to voluntarily disclose carbon emissions and individual carbon performance within the industry. They also assess a disadvantage for companies' overall carbon emissions and the portion of carbon emissions not covered by free carbon allowances. Therefore, companies' market value can be directly associated with their carbon emissions (Borland et al., 2019 p. 278-279).

Accounting research illustrates that carbon disclosures have implications for investors. The accounting research illustrates investors using carbon disclosures in addition to financial reports, with the purpose of integrating carbon risks in investment decisions and to develop further their evaluations of companies' liabilities, assets and risks with consequences to their future cash flows. Companies carbon information, provided either in mandatory or voluntary disclosures, is evaluated by investors. The content of the disclosed carbon measure, the company's competitive position, their relative carbon performance together with their country's carbon regime are taken into account (Borland et al., 2019 p. 278-279).

Research has shown that regulatory and stakeholders' pressure from nongovernmental organisations (NGO) along with the media influence the company's decision to disclose carbon information. Further, accounting research illustrates pressure from stakeholders having little impact on the overall broadness of carbon disclosures, including extent, type and reporting boundary elements. However, there is weak evidence of positive stakeholder impact (NGO, the government and the public) regarding the extent and type of emissions. One theory is that companies use incomplete disclosures of GHG emissions as a way of pretending to act in accordance with stakeholders demands. Furthermore, the voluntary nature of carbon disclosures can contribute to situations of inadequate response to stakeholders' pressures. Inadequate carbon information can also be evoked by conflicting interests or expectations between different stakeholder groups. For example, in a broad perspective of sustainability reports, accounting literature

demonstrates that conflicting stakeholder demands cause a considerable gap between a company's voluntary sustainability reports and their sustainability practices. Another study claims that regulation of carbon disclosures is essential to achieve improvements in its reporting quality. The fact is that disclosure of a manageable number of carbon performance of variables may provide a more efficient way of informing stakeholders about company management of climate change risks (Borland et al., 2019 p. 278-279).

According to Meyer zum Felde (2019 p. 52-53), not long ago, companies cited a lack of investor interest as a reason why they were not improving their sustainability effort, and they did not care about environmental, social and governance activities unless they did not entail a significant competitive advantage. However, investors are becoming more aware of environmental, social and governance issues, and today, investors are one of the most important stakeholders and highly influence an organisation's outline. In a study where investors were interviewed, 75 percent stated that they wanted to see enhanced revenue performance and operational efficiency from sustainability. Further, more than 60 percent believe stricter sustainability will conduct improved risk management, and approximately the same number stated that they were willing to divest from companies with large carbon emissions. CEO of BlackRock Larry D. Fink says businesses no longer have only to deliver profits but also meet society's demands for positive social contributions (Meyer zum Felde, 2019 p. 52-53). Furthermore, the number of companies reporting on environmental, social and governance (ESG) performance is constantly increasing. Global Reporting Initiative (GRI) is an independent international organisation that has produced the most broadly adopted sustainability reporting standards worldwide. For example, in 2016, 436 companies were reporting under GRI guidelines, while in 2017 a total of 6710 companies reported their ESG performance. Investors are more often requesting these types of reports from companies' performances as a basis for investment decisions. However, studies illustrate a gap between companies' perceptions and investors' expectations and managers' awareness need to sprout as investors' pressure increases. In other words, the importance of taking sustainability into account is increasing sharply (Meyer zum Felde, 2019 p. 52-53).

The insurance company, which was interviewed for this study, stated that they do not ask any questions or place and requirements regarding sustainability on the companies they insure. Due to the fact that an insurance company needs its customers, placing demands is difficult. On the contrary, customers place demands on the insurance company. Instead of requirements, the insurance company focuses on preventing injuries. They do this by visiting the companies and examine, for example, how they manage their fire risks and provide input on how they can further reduce the risks (Insurance company A, 2021). The same insurance company also runs an investment department. When we asked if they place any demands on the companies they invest in, they stated that they make their investments a lot based on ESG criteria (Insurance company B, 2021).

### 3.3.3 Swedish framework for carbon offset and sustainability

Since 2017, Sweden has a climate political framework with strong connections to the Paris Agreement. The framework includes, among others, the climate law and the long term national goal for net-zero emissions of GHG by 2045. The goal for 2045 states that emissions of GHG from Swedish territory shall be at least 85 percent lower than the emissions in 1990. To achieve the sustainable goals the society needs to redirect and one part of the framework's purpose is to ensure the right prerequisites are taken, in order to enabling the business community to change. To get rid of the remaining 15 percent and achieve net-zero emissions, it is possible to use "complementary measures". Such measures are emission reduction implemented outside Sweden's borders, additional carbon dioxide uptake by forest and land, as well as bio-carboncapture storage (Naturvårdsverket, 2020).

In the climate law, which came into force January 1th, 2018, cooperation between budgetary policy and climate policy goals is a key element (Naturvårdsverket, 2020). In 2016, the Swedish government put forth a legal council referral regarding a change of the Income Tax Act (1999:1229). The referral suggests that companies, which are not included in the European Union's Emission Trading, shall have the right to make deductions for cancellation of emissions rights as a method of compensation for emissions from their own business (Regeringskansliet, 2016).

According to the Swedish Environmental Code (*Miljöbalken)* 2 chapter 5§, *everyone* who conducts a business must economise with raw material and energy, and strive to: 1) reduce the amount of waste, 2) reduce the number of harmful substances in materials and products, 3) reduce the negative effects of the waste and 4) recycle the waste. In the first instance, renewable energy sources shall be used. However, according to 2 chapter 7 §, the demands only apply to the extent that it cannot be considered unreasonable to comply with them (SFS 1998:808).

# 4. Results

In this section the results from the survey, including the three interviews, are presented. In some questions, companies could enter more than one answer within the same question, therefore the result is *not* limited to only 14 answers per question.

The number of employees varies between the companies. Both companies with less than 50 employees and companies with more than 1,000 employees answered the survey.

The answers regarding how long the employee who responded to the survey has worked for his company varied between the different companies. Number of years employed at the company varied between less than two years to more than ten years.

The area of employment for the person answering the survey varied as well. 50 percent of the employees operated within the area of sustainability and environment. 28,6 percent worked as a CEO.

50 percent of the companies' geographical area of the customer base are found in Sweden. 28,6 percent of the companies have a customer base within Europe and 21,4 percent have a global customer base.

Please see Appendix 2 for the exact answers from the companies

**Figure 3**
Illustrates a summary of the number of employees, how long the employees have been hired at the company, their area of employment and the company's geographical area of customer base for the participating companies in the survey. For each company's exact answer, see Appendix 2.

When asked where in the supply chain each company operate, we received a mixture of answers. Some examples of the answers we received were seller, producer and distributor. All answers from the companies can be found in Appendix 2.

**Figure 4**
Illustrate examples of where in the supply chain companies in the survey operates. For each company's precise answer, see Appendix 2.

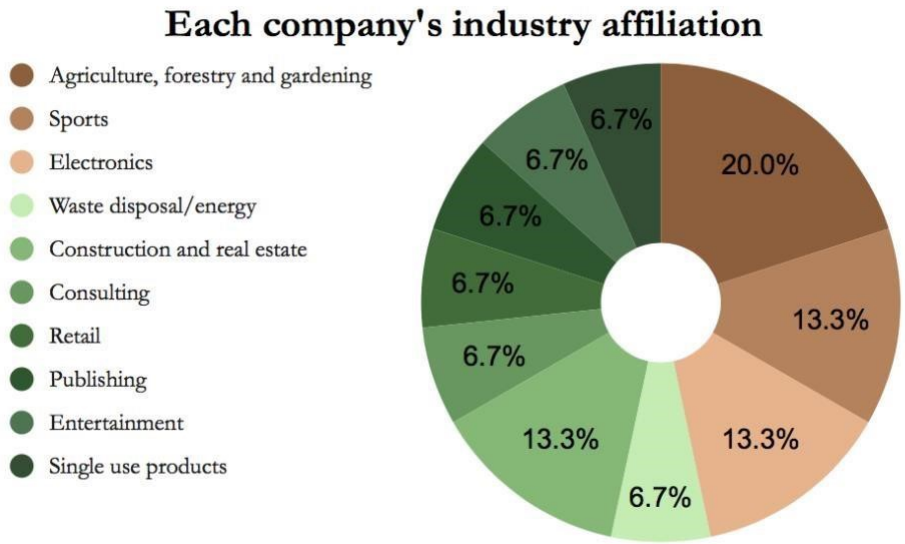


**Diagram 1**
Illustrate the spread of branches that the participating companies operate in.

As diagram 1 shows, it is clear that there is a broad spread of branches within the companies that have participated in the survey. Each company's specific answer can be found in *Appendix 2*.

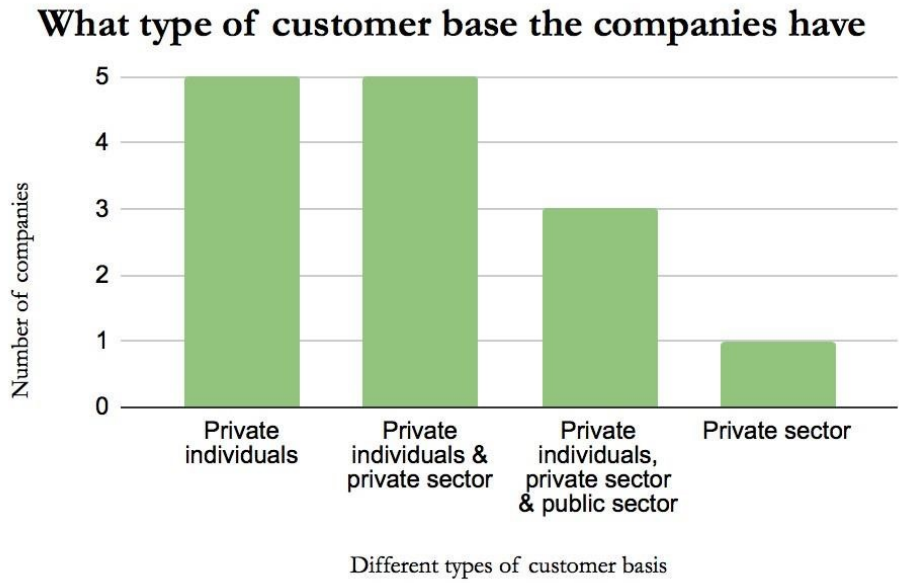


**Diagram 2**
Illustrating where each of the companies have their customer basis.

As diagram *2* shows, five companies only have private individual customers, and five companies sell to both private individuals and the private sector. Further, only three companies have customers within all three areas.

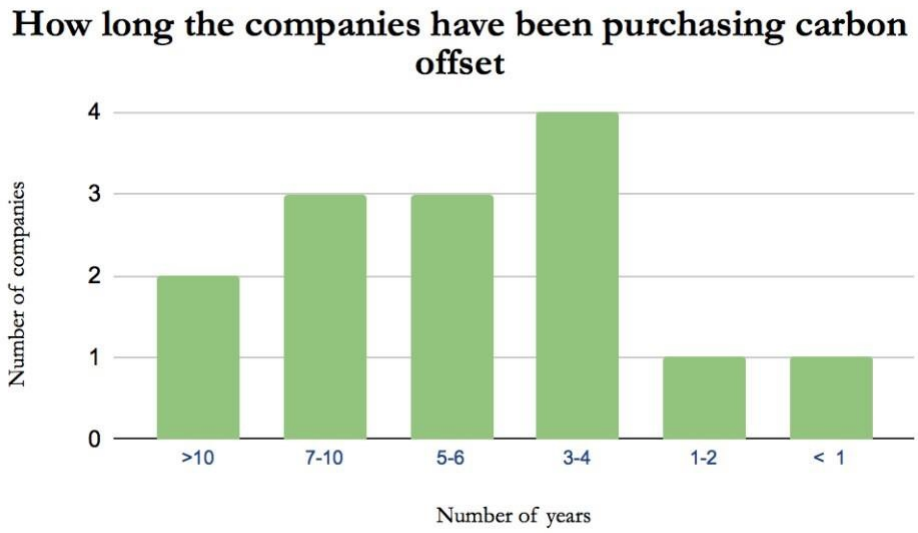


**Diagram 3**
Ilustrates the number of years the companies in the survey have been buying carbon offsets.

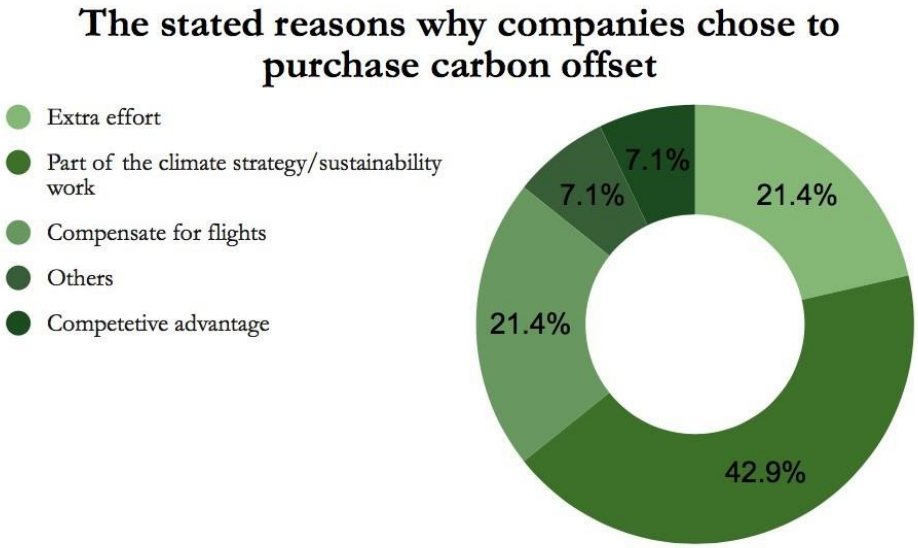


**Diagram 4**
Illustration of the participating companies' reasons for purchasing carbon credits

As seen in diagram 4, 42,9 percent answered that carbon offsetting is a part of the company's climate strategy. 21,4 percent purchase carbon offsets to compensate for their flights and 21 percent view it as an extra effort in their sustainability work. Furthermore, 7 percent listed carbon offsetting as a reason to achieve a competitive advantage. During the interview with Company A, they further explained that their main reason to purchase carbon offsets was due to their flights. Even though company A has a relatively generous travel policy, flights within the company still occurred, which they wanted to compensate for. Company B also buys carbon offset to compensate for their flights. By adding an extra cost when the staff book a flight, they feel they make it visible to their employees that it is more expensive not to be sustainable. Unlike company A and B, company C compensates for all three scopes. With help from an external company (South Pole), they measure all of their emissions, including all scopes and all categories that are adaptable to their business. Finally, they purchase carbon offsets with the calculated measurement as a basis. Company C means that it is their responsibility to take care of the most significant parts, and Scope three represent 90 to 95 percent of their overall emissions. Therefore, it would be strange to focus only on the small parts when they are accountable for all of it.

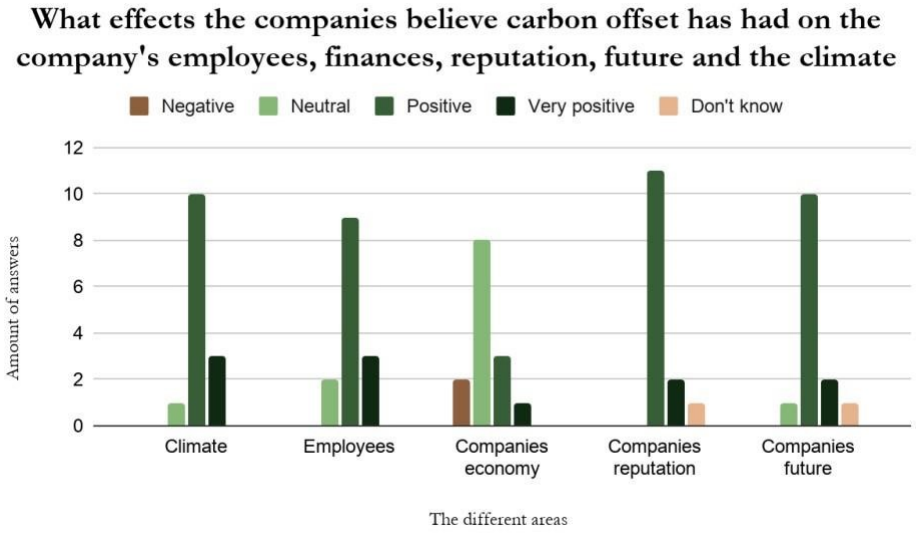


**Diagram 5**
Illustration of how the companies in the survey believe buying carbon offsets have affected different areas.

As diagram 5 illustrates, the majority of the companies answered that buying carbon offsets has had a positive effect on climate, employees, company reputation and the

company's future. Furthermore, 57 percent answered that buying carbon offsets has had no effect on the economy, while 14 percent stated it has had a negative effect, and 21 percent said it has had a positive effect.

One company stated carbon offsetting is a security for the company, and compensating for more carbon emissions than the firm emits assures that they have a positive climate impact. Further, one company again mentioned carbon offsetting not having such a great impact; instead, reducing their emissions have a bigger effect.

Further, one of the companies who answered that carbon offsetting has had no effect on the economy derived this to the fact that they have not been buying carbon offset long enough to be able to see an economic effect. Company A also answered that purchasing carbon offset did not have an effect on the company's economy. During the interview, they further explained that this is due to the fact that they only compensate for their flights, which is such a small part of the company and therefore did not contribute to any major impact. Company B answered that the carbon offset had a positive effect on everything except the economy. In the interview, they further stated that they only compensate for the emission that derives from their flights.

**Summary and categorization of 'other environmental and climate work'**

**Chart 2**
Shows a summary, categorized after areas, of the answers from the companies in the survey regarding their 'other environmental and climate work'

| *Category* | *Number of replies* |
|---|---|
| Environmental friendly materials | 3 |
| Electricity | 2 |
| Traveling habits of employees | 2 |
| Assessment of supplier | 1 |
| All process of business | 4 |
| Diminishing resources/waste/reuse | 5 |
| Emission from transport | 4 |
| Sustainability goals / KPI | 2 |
| GHG Protocol / GRI Standard | 3 |

We asked the companies to briefly describe their climate and environmental work other than carbon offset and we received very different answers. Three of the

companies stated that, among other things, they work with what sort of material they purchase and that they make the decision to purchase, for example, Eco-labeled products or products that generally are more expensive but also more environmentally friendly. Two organisations are trying to affect their employees' travelling habits. They do this by encouraging them to choose walking, biking or public transportation to the offices. One of the companies also offers economic support for the employees choosing public transport. Five of the 14 companies stated that they also work with diminishing resource consumption, focusing on waste disposal and reuse. Among the more common replies were also focus on transports, whereas four companies work with diminishing the emission from the transport part of the business. One of the organizations also work with diminishing the emissions from production, and another performs a sustainability assessment of their supplier. Two companies stated that a part of their climate and environmental work is what sort of electricity they use, solar cells and excess electricity as well as a pellet boiler for heating as examples.

Moreover, four of the companies answered that they work with sustainability in all business processes, one of them stating that sustainability is the core of the company. Sustainability goals were found in the answers from two companies; one stated that they had created a Key performance index (KPI) for sustainability. Finally, three of the companies work with GHG Protocol and another with GRI targets. Company B replied in the survey that carbon offset constitutes a small part of their sustainability work. During the interview with the company, they described that their company's wide sustainability strategy is based on overarching target areas, such as climate, biodiversity and circular economy. Within every target area, they put up subgoals.

Since company A is active within the final steps of a product's life cycle, their core issue regarding sustainability is sustainable resource management. They focus on trying to refine the product and try to extract new resources useful for society. Company A further stated that another essential part of their climate work is to detoxify society. In connection with a product's end of life cycle and company A's branch, some toxic substances are released in the air, which is not desired to circulate in society. In the end, Company A stated that the foundation of their climate work is to create insight into the issue, since every individual can affect these issues and that one person's actions, climate-friendly or not, does matter as well. Further, they want to contribute to behavioural change and an understanding of the fact that a product's life cycle along with consumers behaviour influences climate. Company A believes that, because they act at the end of a product's life cycle, there is only so much they can influence, so it is crucial that they try to influence the events before.

When interviewing company C, they explained that their sustainability strategy had been divided into three areas: 1) material focusing on sourcing raw material, 2) human rights, and 3) environmental and emission strategy. More in-depth, the "material focusing" is mainly focusing on where it has been produced and that the

production is legal. Company C also has a goal to achieve 95 per cent certified material within all of their products. Further, human rights are mainly about audits that all of company C's suppliers have assigned. It is about the code of conduct to provide an overview and discuss specific topics. Briefly explained, company C's strategy regarding the environment primarily focuses on emissions and water scarcity, electricity, and getting on the train of renewable energy transformation.

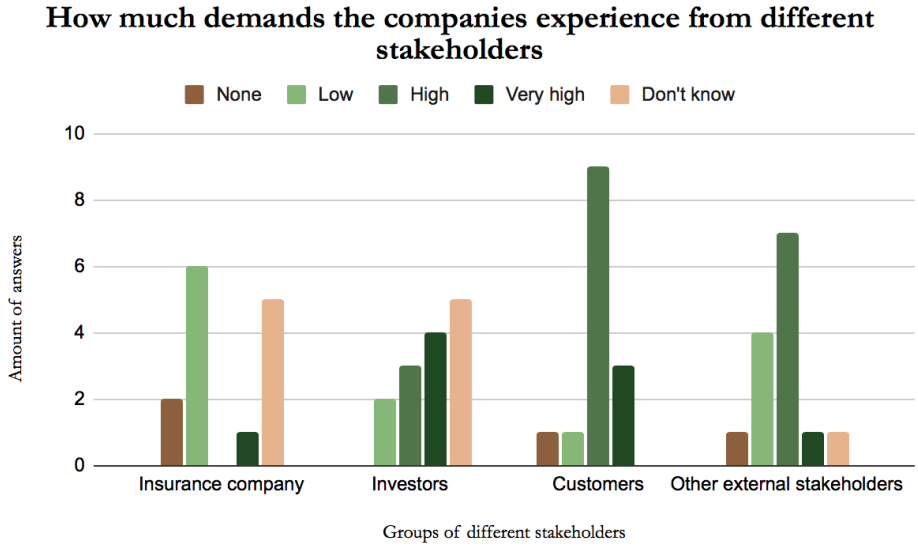


**Diagram 6**
The diagram shows the level of demands, in regard to environment and sustainability, that the companies in the survey experience from different groups of stakeholders.

The companies had the opportunity to follow up their answer to the question in diagram 6 in free text. One of the companies that experienced high pressure from other external stakeholders wrote that authorities and potential sponsors also set high standards. One company stated that it did not experience any pressure from neither insurance companies, customers or other external stakeholders and states that demands are very unusual. They sometimes occur from public clients. According to them, the lack of demands is strange since they work with providing data for environmental quality description. Important for the result is also that one of the companies answered "do not know" regarding demands from insurance, investors and other external stakeholders and "high demands" from customers. Same company explained that they do not have any investors or external stakeholders and therefore answered "do not know". Moreover, one of the companies stated very high demands from insurance companies and stakeholders as well as high demands from customers, also wrote that this depends on what sort of

sustainability question it is in regard to. They further explained that customers are not focused on questions of climate while investors and insurance companies see all questions as necessary. However, they observe the most crucial question to be about ethics, due to the company's branch affiliation.

Company A is owned by governmental agencies and therefore, they do not experience any demands from investors or insurance companies. However, they experience ownership requirements regarding their sustainability work. They also stated that much of the demands come internally. During the interview, they said that climate change is a hot topic and there are many discussions in the society about being climate neutral, which obviously pushes company A to develop methods to further reduce their emissions.

Furthermore, company C answered that they experience high demands from investors and customers. At the interview, company C explained that the demands from customers come to expression mainly through social media and describe it as an indirect pressure. Nevertheless, when selling business to business, company C observes a bit more direct pressure since businesses ask for more specific things taken from their perspective. Company C also stated that they themselves want to make sure their sources are produced in the most sustainable way possible. When we asked company C which driving force is the main one to continue developing their sustainability work, they answered that it comes from many different sources. The driving forces internally are really going forward with the approach of having a more sustainable business. However, company C is a global business with companies all around the world. Due to this, every country has different approaches to sustainability.

Further, company C stated that there is a market demand as well. They also perceive that sustainability is not an additional opinion that a company can choose if they would like to do or not. It is also an economic part since long term sustainable strategies support the finances. For example, future strategies that several countries are binding in or asking for in the long term, are advantageous for their company, if they already work towards those ambitions and are trying to join the "economic and ecological sphere". Company C means that a company is also working streamline and smarter by being at the frontline with sustainability work.

Company B experiences high demands from customers and external stakeholders and very high demands from their investors. In regard to external stakeholders, the company experiences that many of the new employees see sustainability as necessary and choose their workplace depending on that. According to Company B, to be an attractive employer in the future, they must have good sustainability work.

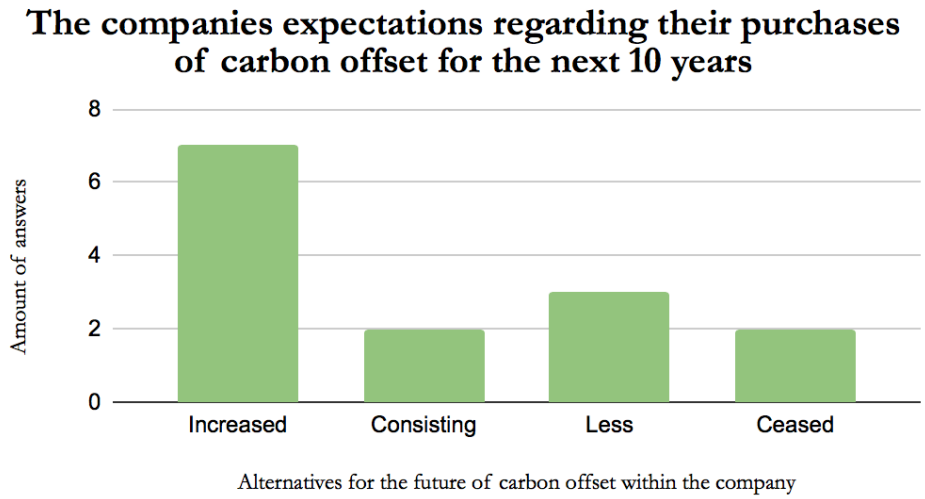


**Diagram 6**
Illustration of the companies' expectations of carbon offsetting within their own businesses, for the next 10 years.

50 percent believe their purchases within carbon offsets will increase within the next ten years. One company declared this due to their goal to become carbon positive and one company stated that along with the company growing, so will their purchases within carbon offsetting. Further, one company believes the future will bring higher demands on becoming carbon neutral. Therefore, their purchases will increase as well. One company said perhaps carbon capture storage (CCS) would in the future be included as a carbon offsetting project. The 21 percent who stated carbon offsetting would diminish stated that they will invest more in reducing their emissions. Therefore, the need for buying carbon offsets will decrease. However, they will still compensate for the emissions they have. The 14 percent saying they will cease carbon offsets, either said it was due to changing strategies or because they will remove all emissions themselves and therefore have no more need to purchase carbon offsets. Further, 14 percent believe their purchases of carbon offsets will be consistent over the next ten years. Important to notice, one of the companies who stated that they think there will be less purchases of carbon offset also stated they *wish* to reduce their emissions themselves but are not sure if it is possible.

Company B stated in the survey that they think that carbon offset will increase in the future. In the interview, the statement was explained by the company's work with GHG Protocol, where they have just begun with Scope 3. The emission from the material used within the industry (by their supplier) limits how much it can be reduced in regard to current technology. To get rid of the rest, the company thinks that there need to be large transformative changes on a society level, with help from

electrification and CCS. Looking at new and upcoming certifications relevant for the industry, the entire production needs to reach net-zero emission. Therefore, they will need carbon offset as help to fulfil the requirement of such certifications.

In the survey, Company C replied that there will be less carbon offset in the future since the company focuses on reducing their emissions rather than offset. They also wrote that it is their belief that there will be less available carbon offset to invest in, causing it to be more expensive to compensate. During the interview, they stated that they expect more companies to start using carbon offset as a strategy. Given that there is a limited amount of projects, the competition will increase, causing the price for a credit to increase.

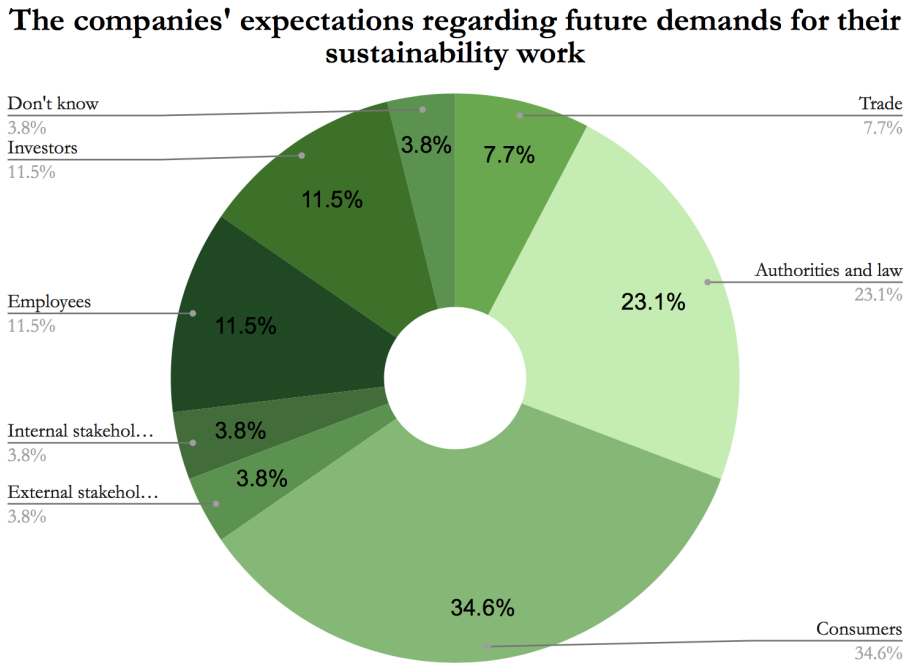


**Diagram 8**
Illustration of from whom the companies' in the survey think the greatest demands regarding their sustainability work will come from within the next 10 years.

As diagram 8 shows, most companies believe customers will have the greatest demands in the future. Further, many believe authorities and regulations along with employees also will have great demands.

When we asked where company A obtains its visions for the future, they answered they themselves work a lot with visualising the future. However, when they emerged their latest sustainability strategy, they acquired help from an external

company specialised in future sustainability plans. Together they created several future scenarios, and based on these, company A established a strategy for sustainability. They also stated that CCSis a typical question that has been pushed externally and is highly related to the work towards becoming fossil-free.

The same question was asked to company B, which replied that their external analysis is a blend of different things. They have conducted an interesting analysis with all their stakeholders (owners, trade union and customers). However, they primarily construct analysis within the organisation, since they have one person employed to do this. Moreover, the company has also performed a "risk-mapping" where they, among other things, looked at the risks with a future changed climate connected to their company.

Company C works internally with staying updated. They do so by taking part in new reports and studies from all kinds of institutions. Company C is one of the corporations who have customers outside Europe. Due to this, they also stay updated on what the EU is deciding as well as on a national level in the relevant countries to see what could be affecting Company C and their supply chain. They actively work with finding suppliers who have suitable filters, e.g. treatment of wastewater, within their companies and see their manufacturer as a big part of their long-term strategies. Further, the employees conduct a big part of the development for future sustainability strategies, but they also cooperate within their industry organisation. The company is a customer of Southpole, therefore Southpole is another agency involved in the conversation regarding Company C's long-term perspective. In summary, company C creates their long-term strategies internally with help from other agencies.

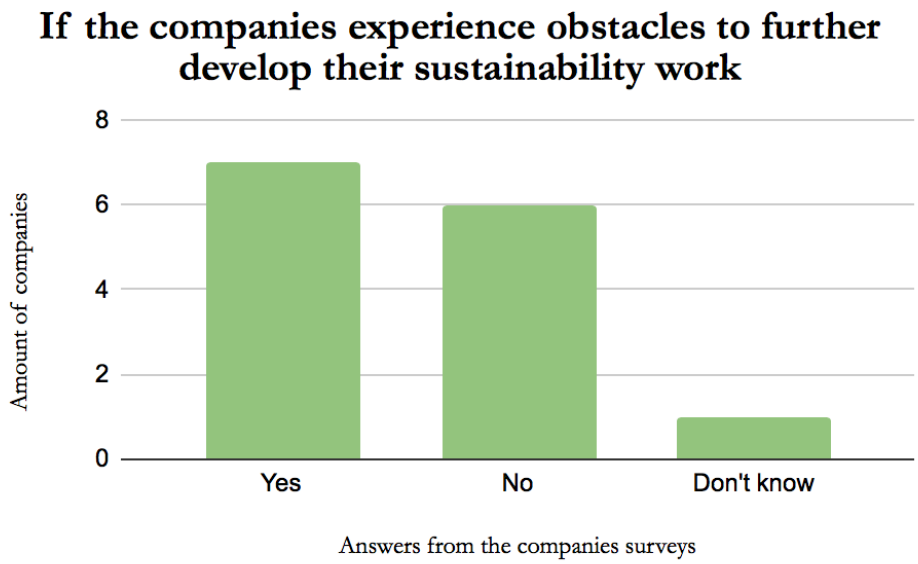


**Diagram 9**
Shows how many of the companies in the survey that experience obstacles to further develop their sustainability work.

As diagram 9 illustrates, 50 percent of the companies experience obstacles to further develop their sustainability work. However, the obstacles themselves vary (see diagram 10 below).

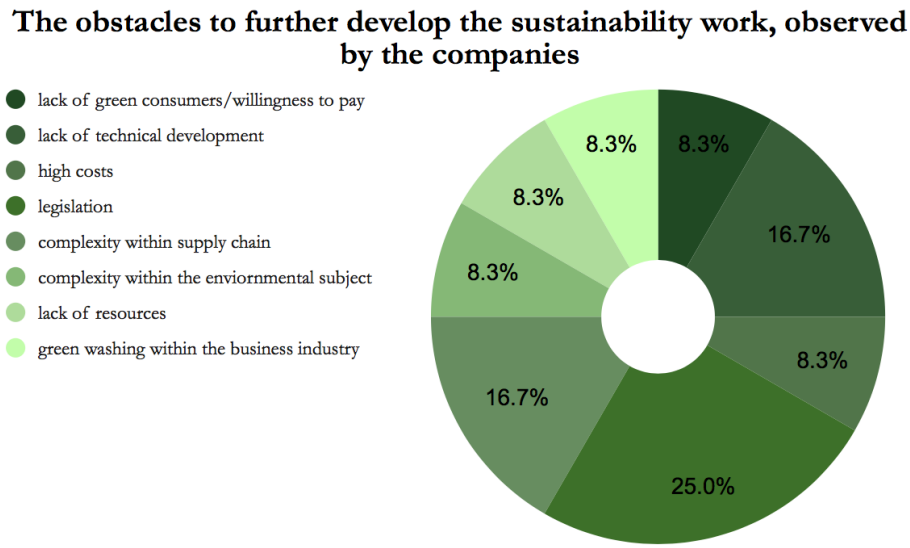


**Diagram 10**
Illustrating which obstacles the companies observe to further develop their sustainability work.

The companies could voluntarily, in free text, specify which obstacles they mainly experience. Eight of the companies participating choose to do so. As diagram 10 illustrates, many companies listed more than one obstacle, and the most common obstacles stated is legislation, lack of sustainable technology development and the complexity of sustainability in general. One company stated lack of dedication within the employees as an obstacle for developing their sustainability work together with internal priorities and allocation of resources. Company A stated that counterproductive legislation is one of the obstacles they observe for further developing their sustainability work. During the interview with company A, they explained that sometimes legal requirements arise, such as taxes, which becomes the company's responsibility. This despite the fact that the source of emissions originates from someone or somewhere else. In such cases, the legislation becomes counterproductive because the legislation falls on the consequence of the problem and not the source of origin. Company A further believes this can be linked to the lack of a holistic view. Company A explained that one all too often wants to see and think of sustainability as in terms of black-and-white, when in reality, the climate and sustainability issue is a very complex issue.

Company B stated in the survey that they do not experience any difficulties to further develop their sustainability work. In the interview, the company elaborated on the subject by saying that never before have they seen such high development in the area, both at an organization level but also in society. However, given a chance to

evolve on the subject during the interview, the company explained that there are always obstacles, but in their experience, these are found on society-level and concern questions of infrastructure. As an example, they mention that they can easily switch to electric vehicles, but then there need to be charging stations around the country. The same goes with the area of material use. Their view is however positive, and they feel like there is an active dialogue around solutions.

In the survey, company C stated greenwashing within the business industry and complexity within the environmental subject as obstacles. During the interview, the company explained that they think it is hard to explain the complexity of sustainability in a way that is easy to understand for everybody. Another part that they find tricky is to implement the emissions from the production of devices needed to use their products. To better improve and further overcome that obstacle, company C thinks that if everyone uses the same method to report and measure emission, for example the GRI reporting system, it would be clearer what each company is doing and help avoid greenwashing.

In the interviews, we also asked the companies if they thought it was more economically beneficial to make changes in the processes to decrease GHG emission or to purchase carbon offset for the same amount. Company B thought it was cheaper to buy a carbon offset, calling it "the easy way out". However, they also point out that this depends on what sort of carbon offset one chooses to purchase. On the same question, company C thought the opposite. They believe it to be easier and more economical to reduce emissions and adapt. However, they recognize the question as being hard to reply to since the "correct answer" depends on how the market develops. It is not easy to foresee what the industry will be like in the near future. Nonetheless, Company C's opinion is that it is probably more viable to reduce, given the fact that the company then will be less dependent on the prices for carbon offset.

# 5. Discussion

## 5.1 Carbon offset as a strategy

The majority of the companies participating in the survey stated that purchasing carbon offset is only one part of their sustainability strategy. 21,4 percent view carbon offset as "an extra effort", and 21,4 percent stated that they purchase carbon offsets as a strategy to compensate for their flights (see diagram 4). Purchasing carbon offset to make an extra effort becomes a question of interpretation. Who is this extra effort for? Is it due to the environment, due to employees' opinions or due to increased competitiveness? Or is it simply out of good morals? Unfortunately, the study lacks evidence to be able to provide a definite answer. Only one company stated that purchasing carbon offset brings a competitive advantage. Against the background, claimed by Borland et al (2019), that a company's market value is linked to its carbon emissions we find it surprising that not more stated the competitive advantage as a reason for purchasing carbon credits. Further, one may also wonder why companies do not observe carbon offset as competitiveness? Purchasing carbon offset as a sustainability strategy is, as stated by Foley (2011 p. 9), a contested strategy, and it is often referred to, for example by Kellner (2020), as a strategy where one only buys themselves free while continuing business as usual. Perhaps due to the criticism that exists towards carbon offsetting, a company that only performs carbon offsets as their sustainable strategy may not get any competitive advantage since it often is viewed as "paying for absolution". However, a company with a sustainable strategy to primarily reduce their emissions and then use carbon offsetting as a strategy for their "leftovers" perhaps gets a more competitive advantage. If that is the case, a conclusion could be made that purchasing carbon offset as a part of a greater sustainability strategy can evolve in higher profits. Further, this is also in line with Wiggs (2021) statement that companies compensating for their emissions, in fact, have more extensive climate work. Nevertheless, it cannot be determined whether companies purchasing carbon offset have better sustainability work than companies not purchasing since this study only examined companies who purchase compensations.

Notwithstanding, it is not possible to exclude that the other companies in the survey also believe the purchase of carbon offset to increase their competitiveness; however, since they did not bring it up, it can be assumed that they do not view

increased competitiveness as the main reason for using carbon offset as a strategy. This leads to the question why a company chooses to use a strategy they themselves do not consider to be a competitive advantage? One theory is that no matter how hard a company works with reducing their emissions, there will most likely be emissions still. A great advantage with purchasing carbon offset is that it can be applied regardless of where and when the emissions occurred. One example is air travel, electric airplanes do not currently exist, and not all air travel can be replaced by trains or other environmentally friendly means of transport. A company can reduce their flights to a certain limit, but presumably, some flights will be inevitable, and emissions will be released. In such situations, carbon offset is currently the only way to compensate for those emissions. A company perhaps has a developed sustainability strategy to reduce their climate impact and, as an addition, choose to purchase carbon offset in such situations where other strategies are not applicable, and thereby display that the company is working with sustainability in every way possible.

## 5.2 Driving forces and obstacles

The results illustrate that companies overall feel low pressures from insurance companies. As diagram 6 illustrates, companies generally experience higher demand from investors. The corporates were most in agreement when it came to customers' demands for sustainability, where a total of 85 percent answered that they experience high or very high pressure. The companies not experiencing demands from insurances goes in line with the information we received from the insurance company. Not being able to make demands on customers, on whom you depend on for the company to survive, is reasonable. When it comes to investors, the roles are reversed because many companies depend on good investors for their success and therefore want to be perceived as attractive to investors. This opens up the possibility for investors to be more selective and demanding. Further, in the New Divisions report 'Hållbarhetsfokus 2020' where 90 percent of the participants stated that they experience higher demands from investors (Lindblad, 2020). What can be interpreted from Lindblad (2020), this is a significantly higher percentage, compared to previous years. It can be assumed that our result, where 50 percent of the participants experience high or very high demands, is credible. It should also be taken into account that 33 percent of the participants in our survey answered "do not know", which may mean that the actual number of companies that experience high demands from investors is even higher than 50 percent.

A total of eight different obstacles were observed within the different companies, illustrated in diagram 10. Perhaps, depending on which branch the specific organisation belongs to, the obstacles observed vary. Unfortunately, due to a

lack of data, it is impossible to determine whether the different obstacles are linked to industry affiliation or position in the supply chain. Even so, diagram 9 shows that 50 percent of the companies experience obstacles to develop their sustainability work further. In comparison, 40 percent did not, and 10 percent did not know. However, during the interview, company B, who in survey answered no, changed their answers regarding not experiencing any obstacles. Company B identified the difficulties they experience in further development of sustainability to be outside their organisation and had answered no to the question in the survey. The company rather experienced that the obstacles were found on a societal level and that they lack influence over the matter. Therefore, we cannot rule out that other companies who answered negatively on experiencing obstacles interpreted the question as obstacles limited to be found within their company or obstacles that the company itself can influence. This entails some uncertainty in how many companies actually experience difficulties.

### 5.2.1 Legislation – an obstacle or a necessity for a green transition?

The reply most participants indicated regarding legislation as an obstacle, was that it is experienced to be counterproductive. From an environmental point of view, the law is the strongest protector provider. Legislation that makes it profitable for companies to act more sustainably is a stable policy instrument for a green transition, since it will be an incentive to obey the law. However, this is at present not the case, given that many companies stated legislation as an obstacle for further developing their sustainability strategies. The result is interpreted as meaning that legal requirements override more than it supports companies in their sustainability development, leading to companies feeling restrained. One reason for this may be that legal requirements sometimes treat the consequence of the problem instead of the issue. Instead of "fixing the problem", it becomes an onerous burden for those who have to deal with the consequences, which in this case is the companies. Company A further described this relationship as a dance between the trade, industry and the government, where the government places demands on companies to be more sustainable. However, in order for companies to become more sustainable, some things need to change. The decisions for these changes can only be made at a high political level, leaving the companies with an obstacle they cannot impact.

As seen in figure 3*,* half of the companies in the survey have their customer base in Sweden, compared to 28,6 percent within Europe and 21,6 percent globally. Sweden's climate goals and policy instruments focus on the territorial emissions followed by activities within the Swedish border (Naturvårdsverket, 2019 p. 88). It can be assumed that as a country, Sweden wishes to report low emissions, and the purpose of national legislation can therefore be assumed to strive to help the companies to lower their emissions. Obviously, a gap between the tool the legislation is supposed to be, and the companies experience from it differ. Company C gave in

the interview as an example that if everyone were to report and measure in the same way, this could help overcome the legal obstacle by providing an equal market, and avoiding greenwashing. By that suggestion, more comprehensive legislation would be beneficial for companies and contribute to environmental benefits. A global environmental law could ensure more efficiency in the matter. However, Naturvårdsverket (2019 p. 88) explains that Sweden focuses on territorial emission due to counties having grander resourcefulness over the emission within their borders. Hence, national policy instruments are seen as easier to implement and surer in aim.

On the other hand, the problem with counterproductive legislation experienced by the companies should not be overlooked. Whilst the production-based emissions have decreased within Sweden (from 2008 to 2019), the consumption-based emissions have not. One of the explanations to this is believed to be that companies have chosen to move their operations outside Swedish borders, to regions with less extensive climate politics (Naturvårdsverket, 2019 p. 31). This moves the meaning of counterproductive legislation to another level, whereas it instead creates an increase in emission seen globally. While legislation is a powerful tool, it needs to be wielded with great care -if it is to fulfill its purpose.

### 5.2.2 Customers place high demands on greener products but are not willing to pay the price

Only one company listed "lack of willingness to pay a higher price for a greener product" as an obstacle in diagram 10. Perhaps this is not due to a lack of consumer interest but instead a marketing problem. As Mukonza and Swarts (2019) stated, the consumers willing to pay a higher price for a greener product do exist; however, it can be challenging for marketers to find and reach out to these specific customers. The correlation between 85 percent experiencing 'high or very high demands' (see diagram 6) for sustainability from customers and only one experiencing a lack of 'willingness to pay a higher price for a greener product' from customers (see diagram 10) is reasonable. Therefore, it should be possible to conclude that the customers prefer a greener product on today's market, and it should also be a competitive advantage. However, this is not to be confused with the competitive advantage connected to purchasing carbon offset as a part of the company's sustainability strategy.

### 5.2.3 Is it financially profitable to be environmentally friendly?

As diagram 10 illustrates, one company indicated that lack of dedication within the employees is an obstacle for developing their sustainability work together with

internal priorities and allocation of resources. Simultaneously, large expenditures were stated as an obstacle. As Wunder (2019 p. 1-3) stated, there are three aspects a company needs to focus on: 1) process efficiency, 2) technological development and 3) organisational changes. By being successful within these three aspects, a company can reduce its costs in relation to its profit. However, comprehensive resource allocations are usually required in order to adjust to a more sustainable business and it involves significant financial investments. On the one hand, it is understandable that a firm's primary focus is to increase its competitiveness and profits. On the other hand, as Wunder (2019 p. 1-3) stated, the business industry is encapsulated in both ecological and social circles; the economy, organisations and individuals cannot avoid a deteriorating environmental situation. Hence, they are forced to rethink their way of responding to sustainability work. Even if a sustainable conversion involves large expenses and possible delays before it has a financially positive effect, is this resource allocation inevitable if the company is not to be outcompeted by the companies that did invest and restructure.

The debate whether it is a competitive advantage or even economically beneficial to invest in environmental solutions depends on the perceptions one holds for the future. With certainty some environmental improvements are directly linked to being better for the company's economy, becoming more power efficient. By using less electricity the electricity bill decreases, at the same time as it is beneficial for the environment. Though, if you take it one step further, for example changing to renewable energy, the question directly becomes harder to answer. The connection to environmental benefits is evident, but the same can not be said about the economic part. Whether or not this provides a financial advantage depends on how the market will develop. Will the high pressure regarding sustainability from customers and investors remain in the future, thereby providing a competitive advantage for the companies that have made the transition to renewable energy? Is the source for renewable energy, like wind power, still the best option on the market or has new technology developed? The investment in environmentally friendly strategies goes by the same rules as all investments; profits must be expected for alterations to be implemented, or for it to even be brought to the table. However, to be able to ensure any sort of yield in the future, one must be assured. To predict the future is an impossible task that entails complexity within the subject, along with entailing uncertainties for companies' decision-makers. Complexity within sustainability is something the companies stated as an obstacle as well. Given that many environmental issues lack definite answers, combined with the fact that the outcomes of your climate actions will only exhibit in the future, it is entirely understandable that the subject is perceived as challenging to grasp. Nevertheless, most future visions indicate that a company's sustainability work will be crucial, both for the environment and the company itself. Presumably, the only option for corporations is to jump into the deep water and pray they will not sink.

## 5.3 Expectations for the future: who will place the greatest demands?

When it comes to companies' view of the future and future requirements, it is customer demands that most organizations have specified, followed by authorities and laws (see diagram 8). Since legal requirements often are a consequence of political decisions, which in turn depend on the society's views, it is reasonable that these pressures go hand in hand. If society, and thus customers, gain increased awareness, politicians will also act accordingly, which results in higher demands from authorities and laws. Further, an interesting point of view is the belief of increasing demands from employees. As Moravcikova et al. (2017) mentioned, people generally have become more aware of climate changes, and customers are becoming more meticulous with which products and services they choose to purchase. Simultaneously, one has to remember that an employee at one company is another company's customer. It is then not unreasonable that the customer who brings demands towards the company it trades with brings the same requirements to its workplace. Simply put, society's actions are influenced by the views of the human population. Since the environment is currently a hot topic and predicted to become even more relevant in the future (Meyer zum Felde, 2019. p.52-53), the human population and thus society will incorporate environmental aspects both in mindset and actions. Correlating with the result regarding expected increases of consumers' demands, this also means that consumer's views regarding the environment and climate will most likely also be channelled out into his or her workplace along with being reflected in the person's political opinions. Consequently, it can be assumed that high demands on companies' sustainability work will in the future be channelled from several different sources, but it is consumers' opinions that companies listen to the most, as these are the most decisive factor for a company's profits, and therefore customers' demands are perceived to be the greatest. Another theory is that later generations are more aware and concerned about the environment. This group of society are not yet active in the labour market; however, within 10 years, they most likely will be. With the information stated in this study, it is safe to say that the younger generation will have higher demands on the environment, both outside and at their workplace.

### 5.3.1 The future of carbon offset – does it complete the lacking technical development, or does it cause it?

50 percent of the companies believe their purchases of carbon offsets will increase within the next ten years, while 21 percent answered the purchases will diminish (see diagram *7*) as a result of reducing their emissions themselves. It can be assumed that

all companies wish to reduce their emissions since the implementation of a green marketing strategy is necessary to remain relevant on the market (Moravcikova et al. 2017), but possibly the barriers to do so are currently too significant for the 50 percent who stated carbon offsets will increase.

One of the companies which replied that they think that their carbon offset will decrease in the next ten years (see diagram 7) pointed out that this is the development that they *wish* to accomplish, but that they are uncertain if it is possible. The remaining part of the emissions that they are not able to reduce they will compensate for. In diagram 10, the same company stated *lack of technical development* as an obstacle for further development within sustainability. This can be seen as a testimony of one of the most important questions connected to carbon offset, and explain why its existence is so important. A majority of the companies that participated in our survey wish to reduce their carbon footprints. While a great deal can be executed by the companies themself to lower their emissions, the available technologies put the ultimate limit on how far it is possible to reduce emissions. As an example of technology as an obstacle, Company B talked about a material used within their branch which generates a lot of emissions. With current technologies, only 50 percent of the emissions from manufacturing of the material can be reduced. In order to be able to reduce the remaining 50 percent, large transformative changes on society-level are obligatory. The lack of technological solutions to further reduce emission creates a gap, and in absence of other solutions, carbon offset works as a solution to fill that void. Recognising that the companies wish to further reduce their emissions compared with what is possible given today's technology, carbon offset holds an essential role in helping to lower their carbon footprint and thereby also mitigate climate change. Carbon offsetting can therefore be summarized as a vital function that contributes to more sustainable development during the wait for new technologies enabling further reductions of emissions. On the other hand, according to Gold Standard C (n.d), carbon offset has been accused of removing the incentive for further development and changed behaviour. If a company or a person can pay for their emissions to go away, what incentive is there left to reduce the emissions or change behaviour? Svenskt Näringsliv (2017) claims that the business community acts as a supplier of technical solutions and that a competitive business community is crucial for sustainable development. A possible point of view in regard to this is that the method of carbon offsetting robs the community of this crucial competitiveness.

### 5.3.2 Paying for absolution – why the standard matter

There is a common comparison of carbon offsetting and papal indulgence; to purchase carbon offset is the same as paying for absolution. Companies with a lot of money can buy their freedom, while the less developed companies or less developed countries do not possess the prerequisites. This creates an advantage for those

already stable on the market. Corporate industry is claimed to play an important role in sustainable development through its contribution in achieving objectives such as Agenda 2030 and the SDGs (Svenskt Näringsliv, 2017). The question however, is if purchases of credits on the voluntary carbon market actually t is contributing to sustainable development? On this question, several views must be taken into account, and determining an answer will not be possible. On the one hand, several of today's carbon offset projects are placed in developing countries due to it giving a bigger effect on reduction, as well as meant to contribute to development by creating job opportunities and transfer technology, among others mentioned in Article 10(c) of the Kyoto Protocol. In the perspective of increasing welfare and in addition to lowering emissions in the atmosphere, offsetting can be seen as contributing to sustainable development. However, one must take into account that the voluntary market is not, as the regulatory compliance market, regulated by the UN. This has led to an ocean full of different types of offset projects and standards. While many offsetting companies brand their units with co-benefits, as a contribution to the SDGs and social benefits for locals, it can be very hard for the consumer to determine whether the stated co-benefits actually occur or are merely contributing to greenwashing. In the background, we have put together a short summary of the most common Standards to keep an eye out for on the voluntary market. However, actors on the voluntary market have the possibility to purchase either VER credits or credits created from a CDM project (Kollmuss, Zink and Polycarp, 2008 p. 5-6). The Kyoto protocol Article 12(5c) defines additionality, which is an essential criterion in order to prevent corruption on the market. Customers of the voluntary market should take great care in choosing what VER credit they invest in, and keep an extra eye out for additionality. The criterion for additionality is of great importance because without it the cost of creating a credit is zero, which enables these credits to be sold at a lower price compared to CER. This opens up for the risk of undermining the entire carbon market (Foley, 2011. P. 22-23). For this reason, the standard of the emission reduction is of utter importance. Nonetheless, as Wilson (2011) stated: even the CDM has its flaws and has been criticized for causing "carboncolonialism" and counterproductive against its purpose to increase environmental and social injustice.

Leading back to the question of whether carbon offset contributes to filling a void created by a lack of technology, or if it simply takes away the incentive for developing new technologies. While various factors come into play, what can be said is that we currently do not have the technology to reduce the emission created by the business to a sustainable level (enough to combat climate change or the 2.0° goal in the Paris agreement). If the actors on the voluntary carbon market purchase carbon credits from Standards that guarantee an actual effect, a corporate strategy regarding sustainability that includes carbon offset can reach beyond those that choose to exclude it. However, to guarantee that the carbon market does not stand as a hindrance to technical development, a good solution would be to make it more

economically beneficial to reduce rather than to offset emission. In that way, the incentive to reduce and keep pushing the technical development would remain, while carbon offsetting fills the function of a temporary solution in the waiting for better methods.

# 6. Conclusion

It can be concluded that the majority of companies that participated in the survey purchase carbon offset because it is a part of their sustainability strategy. 50 percent believe their purchases in carbon offset will increase within the next ten years. This may be due to the company expanding and therefore their need for carbon offsetting will increase or because the barriers to reducing their emissions themselves are too big and therefore purchasing carbon offset will continue to be an important part of the company's sustainability strategy. Depending on where companies obtain their external analysis along with distribution, their strategy varies. Due to lack of data, this study cannot examine this further, however, it would be interesting to investigate this in future studies. It can be determined that more than 50 percent of the companies experience difficulties in continuing to develop their climate work and the results state that high costs, lack of reliable methods and legal requirements are the commonly viewed barriers. Based on this, we can also conclude that many companies feel that the obstacles are not within the company itself and thus something that is difficult for them to influence directly. Regarding the driving forces, it can be concluded that the highest pressures experienced today come from external performers, primarily customers and investors. There is also a perception that these pressures will increase further in the future. An interesting aspect is that many companies stated the internal pressures, mainly from employees, will increase. This is believed to be due to the fact that later generations are more concerned about the environment and climate and therefore do not want to work for a corporation that does not work actively with environmental issues. It can be concluded that a company's sustainability work will continue to be essential in order to be competitive in the market. However, in the future it will also be essential in order to attract employees.

In summary, the issue of environmental sustainability is itself a complex subject. Since the consequences of a company's actions only will be visualized in the future, together with the fact that it is only a certain part of the subject that the company themselves can influence, one can conclude that the business industry is facing a difficult but important task. Due to this, carbon offsetting is an easy strategy, applicable to all kinds of industries and all sorts of emissions. Until better solutions are provided, carbon offsetting is an effective way to impact the size of a company's carbon footprint, as part of a larger sustainability strategy mainly focused on reducing those emissions currently possible.

# Thank you

We would like to thank all the organizations that have participated in our survey and agreed to interviews. Their experience has laid the foundation for our thesis and offered an important insight in the challenges that the business world faces within sustainable development. We would also like to thank Jens Oleak and Johan Eliasson at Southpoles Stockholm office for their inspiring commitment and for sharing their ideas. Finally, we would like to offer a special thank you to our supervisor Helen Avery for all of her advice and encouragement. Her sharp eyes have helped us stay on topic and explore new ideas. Without the support from the companies, Southpole and Helen, this project would not have been possible. Thank you.

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# Appendix 1

The survey questions.

1. For how long have you been employed?

2. What title/role do you have at the company?

3. What professional background do you have?

4. What type of education do you have?

5. In which branch does the company operate?

6. Where in the supply chain does the company occur?

7. Within which geographical areas is the company's primary customer base found?

8. Which of the following alternatives does the company's customer base consist of?

*A) Private individuals B) Private sector C) Public sector D) Don't know*

9. Develop your answer (optional)

10. How many employees does the company have?

*A) 1-49 B) 50-249 C) 250-499 D) 500-999 E) >1000 F) Don't know*

11. For how long has the company been purchasing carbon offset?

*A) Less than 1 year B) 1-2 C) 3-4 D) 5-6 E) 7-10 F) More than 10 years G) Don't know*

12. Which are the reasons behind the company starting to purchase carbon offset?

13. Have the reasons why the company purchased carbon offset changed since you started?

*A) Yes B) No C) Don't know*

14. If you answered YES, please develop how:

15. Which departments and processes within the company have been affected by purchasing carbon offset?

16. How has the company's relationship to customers, suppliers and authorities been affected by purchasing carbon offset?

17. Describe in short terms how you map your emissions?

18. Which affect (positive or negative) would you say the company's purchases of carbon offset have had for:

*The climate*

*Company's employees*

*Company's economy*

*Company's reputation*

*Company's future*

For each category, the company could choose between following answers: *Great negative impact/ negative impact / neither negative or positive impact / positive impact / great positive impact / don't know*

19. Develop your answer (optional)

20. Describe in short terms how other types of environmental and sustainability work which may be conducted within the company.

21. Which demands related to environment and sustainability do the company experience from external stakeholders, for example insurance companies and investors?

*Insurance companies*

*Investors*

*Customers*

*Other external stakeholders*

For each category, the company could choose between following answers*: No demands / Low demands / High demands / Very high demands / Don't know*

22. Develop your answer (optional)

23. How do you think the next 10 years will be with respect to the company's purchases of carbon offset?

24. From where or from who do you believe the greatest demands regarding the company's sustainability work will be made in 10 years?

25. Do the company today observe any obstacles to further develop their climate work?

*A) Yes B) No C) Don't know*

26. If you answered yes, please develop your answer (optional)

# Appendix 2

| Question 1 | Question 2 | Question 6 | Question 7 |
|---|---|---|---|
| 3-5 years | Administrator | Producer | Sweden |
| 6-10 years | Environmental coordinator | coordinates competition activities | Primarily Sweden |
| 0-2 years | CEO | Manufacturer and seller | Exports outside Sweden are North America, Europe and Asia |
| 6-10 years | CEO | Seller | Sweden |
| 6-10 yeas | Environmental and sustainability strategist | Hard to say, we do not manufacture a product | Southern Sweden |
| 6-10 years | Environmental manager | Housing developer and managers of tenant-owner associations | Sweden |

| | | | |
|---|---|---|---|
| >10 years | CEO | Consultant, sells only services | Sweden |
| >10 years | Human resources and Corporate Social Responsibility manager | designing, selling and distributor | Europe and primarily Scandinavia |
| 0-2 years | CEO | Producer and seller | Primarily Europe and parts of Middle East of Asia |
| >10 years | Sustainability strategist | Distributor and seller | Sweden and Baltics |
| 6-10 years | Sustainability developer | Manufacturer (building houses) | Sweden |

# Appendix 3

| Database | keywords | Limitations | Number of hits |
|---|---|---|---|
| Web of Science | Company OR firm OR business OR industry (title) AND "green marketing" OR "environmentally-friendly marketing" (title) AND benefit* OR "competitive advantage" OR profit* OR "increased competitiveness*" | 2017 as the latest publication year | 9 |
| Web of Science | "climate compensation*" OR "carbon offset*" AND business* OR company* OR industry* (title) AND profit* OR benefit OR favor* OR advantage* | | 3 |

| | | | |
|---|---|---|---|
| LUBsearch | Sustainability strategies (title) AND business sector | Only physical books and 2019 as latest publication year | 2 |
| LUBsearch | Sustainable strategy OR sustainable development (subject terms) AND positive OR beneficial OR profitable (abstract) AND impact OR effect OR influence (abstract) | Only e-books and 2018 as latest publication year | 10 |
| LUBSearch | Voluntary Carbon Market (titel) | Only e-books and physical books, 2008 as the latest publication year, in english. | 9 |
| LUBSearch | Climate Change (titel) AND IPCC climate change AND Intergovernmental Panel on Climate Change (AU Author) | 2012 as latest publication year | 4 |